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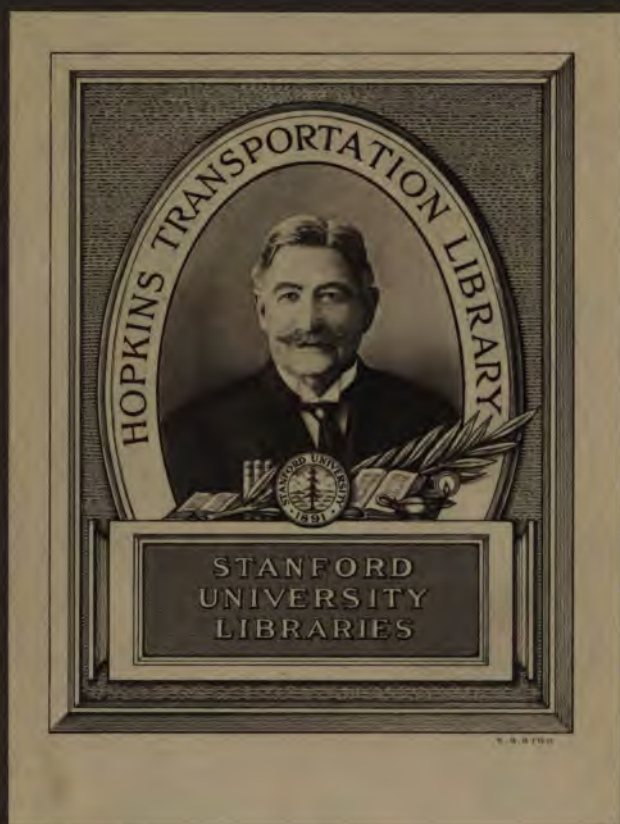
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The Harbors of
California

Read before the sixth annual meeting of the Counties
Committee of the California Promotion Committee,
held December 15th, 1906, at San Diego.

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THE HARBORS OF CALIFORNIA

Some Suggestions as to Their Improvement
and Administration.

BY
WALTER J. BARTNETT
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The Harbors of California

Some Suggestions as to Their Improvement and Administration

By WALTER J. BARTNETT

As we all know, mining was the first great industry of California. The discovery of gold in 1849 gave an impetus to commerce throughout the world that can hardly be overestimated. The production by the State of California of \$1,425,000,000 of gold in the period of fifty years, an amount equal to the world's stock of gold on January 1st, 1849, was felt by the entire civilized world. During the past two decades agriculture has become of greater importance than mining. Now we are entering a new era—that of industrial and commercial development.

The development of commerce on the Pacific will in a few years mean more to the State than all her mineral wealth. To enable her merchants to attract this commerce to her ports and to handle it as it should be handled, the idea has become general that it is essential that the harbors of the State be improved—improved in a comprehen-

sive and permanent way suited to the volume and character of the commerce impending.

A Great Commerce Coming

Let us note the justification of the belief that a great commerce is about to develop on the Pacific and that California is to play an important part therein.

In front of the thousand-mile coast-line of California there stretches an ocean with an area of 80,000,000 square miles, into which open five great seas. This mighty ocean is bordered by lands whose populations aggregate four or five hundred million people. Three or four hundred million of these are at the stage of cultivating wants which only we of the West can at present supply. In front of us lies awakening China with her teeming millions, about to demand those things innumerable which a live and active nation requires for its sustenance. In front of us, too, lie the isles of Japan and the Philippines, which as time goes on will set up mighty currents of trade between themselves and our country; also Australia, New Zealand, and in general the isles of the South Pacific, with which commerce has hardly begun; and India with her 300,000,000 people, whose wants are supplied today mostly by Great Britain.

Behind our thousand-mile coast-line and between it and the Atlantic are 11,500,000 people engaged in agriculture, the value of whose holdings is estimated at \$26,600,000,000, the value of the products of which is estimated at \$7,000,000,000 per year. And taking into consideration the fact that

the era of irrigation, of drainage of low lands and of scientific farming has arrived, affording extra inducements to engage in this pursuit aside from the ever-increasing demand for agricultural products, we may be sure that farming as a livelihood will greatly increase and the products considerably exceed the demand within our national confines.

Behind our coast-line is a main-line railroad mileage of 223,000, and a double-track and siding mileage of 90,000, a total of 313,000 miles—against 23 miles in 1830—and an increase for the future of incalculable proportions.

Behind our coast-line is a population of about 85,000,000, which it is estimated will be in ten years 105,000,000, in twenty 130,000,000, in the year 1950, 200,000,000. And in the words of Mr. Richard H. Edmonds, editor of the *Manufacturers' Record*, of Baltimore, in his excellent article in the *Review of Reviews* of December, 1906, from which the foregoing figures and some of those to follow have been taken: "As business grows so much more rapidly than population, as the output of nearly all manufactured and agricultural products increases at an ever-accelerating rate, and as modern machinery and inventions make possible the doubling and quadrupling of man's working capacity, it is not unreasonable to say that the 200,000,000 people of 1950 should exceed in potentiality what 400,000,000 could accomplish today."

Behind our coast-line is a coal-area of 356,000 square miles, against 10,000 in Great Britain, and 51,000 in all Eur-

ope; our nation's output being at present about 425,000,000 tons per year, and it being estimated that ten years hence it will be 900,000,000 tons.

Behind our coast-line is an annual iron output of 25,000,000 tons, or half of all the iron produced on Earth, and this output it is estimated will in ten years have increased to 50,000,000 tons.

Behind our coast-line is an annual output of over 134,000,000 barrels of petroleum, of about 40,000,000 barrels of Portland cement, of over 413,000 tons of copper, of 80% of the world's cotton, which annually exceeds in value the total annual gold and silver production of the world.

Behind our coast-line are five or six hundred thousand manufacturing establishments, whose total capital is about \$14,000,000,000, and the annual value of whose products is about \$17,000,000,000.

To sum up, taking \$1,400,000,000 as the value of the total annual output of all minerals, we have for the value of the total annual output, behind our coast-line, of minerals, manufactured products and agricultural products, \$25,400,000,000, or over \$10,000,000,000 more than in 1900, with every indication of an equal or a greater increase as time goes on.

All of this is behind our thousand-mile coast-line, in great part behind even the imperial domains of California, a magnificent area of 158,360 square miles, containing wealth of all sorts untold, and as yet in but the merest pre-

liminary stage of development. While before us on the broad Pacific are the hundreds of millions of the Orient becoming weaned away from the simple wants of ages and hungry for the products of the West. Further than this, we are living in an era of world-wide expansion—the whole world is busy. Thirty years ago the foreign commerce of Japan amounted to about 60 cents per head; it is now about \$6.50 per head, or more than \$300,000,000. The trade of China is developing in a rapid manner. It has been estimated that within thirty years this trade will amount to about \$6 per head, or the stupendous sum of \$2,400,000,000. Europe, Mexico, South America, Canada, are to compete with us in supplying the wants of the awakening Orient, and Japan, though part of that Orient, is striving to forestall us and the rest of the world in supplying its needs and its wants. This condition of affairs is stirring our merchants to action—the merchants of our nation throughout—and their forthcoming endeavors will stimulate trade to unprecedented issues. The opening of the Panama Canal will greatly assist the development of all the countries on the shores of the Pacific. And let us remember that Italy, with an area of only 110,000 square miles, has a population of 32,000,000; and that Japan, with an area only slightly greater than that of California, has a population of 46,500,000. These figures enable us to foresee the increase of California's mere 1,750,000 people to far into the millions and her consequent vast increase of business.

This the justification of the belief in a great commerce

impending, for which California is unprepared, and of the inspiration which is to lead to the state of preparation through the proper development and equipment of her great harbors; for the harbors of California are pre-eminently the natural gateways through which the West is to trade with the Far East, Australia, New Zealand, and the South Seas.

Odious Comparisons

In comparing the equipment of certain other harbors in the world with that of our great San Francisco harbor, one is struck with a feeling of wonder at the discrepancies which exist. These discrepancies were excellently portrayed by Mr. Jerome A. Hart in a recent number of the "Argonaut," but verbal expression can hardly do justice to the subject. Look at the massive stone docks and quays of the Old World, with their great fire-proof buildings for the housing of merchandise. Look at the masonry docks of Liverpool, extending along the Mersey for seven miles, with some sixty basins and sixty miles of berth-space at which ships can lie. Look at the docks of Hamburg, extending along both banks of the Elbe for nearly seven miles, of massive masonry; look at the similar docks of Havre, Cherbourg, and Genoa. And then look at the docks of San Francisco—constructed on wooden piles, covered with wretched, ramshackly wooden buildings in which and in the vessels alongside which valuable cargoes are exposed to the constant menace of fire, the whole outfit in constant need of renewal and repair and so inadequate as to space and facilities that even with the

present business vessels are from time to time obliged to wait until others have discharged their cargoes.

So much for the physical side of the question. Now look at the method of financing the improvements at Liverpool harbor and then at the pitiable method in vogue at San Francisco. At Liverpool upon the harbor alone \$200,000,000 has been spent. Between the years 1859 and 1900 they borrowed the equivalent of about \$140,000,000. In the latter year the indebtedness was about \$100,000,000, \$40,000,000 having been extinguished within the 41 years in question. The \$200,000,000 said to have been spent upon the harbor represents permanent value, for the properties possessed by the Mersey Docks and Harbor Board are appraised at about that figure.

At San Francisco, a city with a lighter indebtedness than any other important city in the United States, in California, a State without indebtedness and marvelously rich, the improvement of the harbor has been made from year to year at the expense of the shipping: the shipping of the port is taxed for all improvements that are made on the waterfront; and yearly the Board of State Harbor Commissioners have struggled to find a sufficiency of funds for the necessary repairs and for the building now and then of some new wharf or pier. It is placed to the discredit of San Francisco that in general the port expenses are too large. This might be expected from the fact that the shipping has been taxed for the improvements, which being mere makeshifts are in

constant need of renewal and repairs, and from the fact that vessels are unduly detained, owing to lack of facilities. Vessels are actually avoiding this port on account of the heavy charges and general expense.

What of the Future ?

The future of the port of San Francisco and Oakland, as well as that of the other ports of California, depends in great part upon the rightmindedness of our fellow-citizens in the interior of the State, for the time has come when the State as a whole must consider the harbors, must aid in financing the harbors. The hand-to-mouth methods of the past must be abandoned ; they are unworthy of the intelligence of Californians. Many a time have improvements which would benefit the many been blocked by the shortsightedness and provincialism of the few, but under present conditions so obvious is the need to the State as a whole of the proper improvement of its harbors that the spirit of obstruction if displayed at all can be due but to folly and perverseness.

Let us quote from the Chico Record: "In the past California has paid but little attention to her harbors. The people of the interior have had so many interests to conserve that seemed of more vital importance that they have been prone to overlook the advantages to be derived from a system of harbors which gives the whole State easy access to the markets of the world. * * * The development of the harbors of the State is a matter that comes home to every producer, no matter in what industry he may be en-

gaged or in what part of the State he may reside. The interdependence between the harbors and the interior is so well established that argument is unnecessary to show that the miner in the mountains, the fruit-grower and cattle and sheep raisers in the foothills, and the agriculturist in the great interior valley have equal benefit from the harbor, and are equally interested in having California's harbors made the best in the world. The day is at hand, and will be here much sooner than most people suspect, when the marts of Asia and the islands of the Pacific will be calling on California for her products; and with her harbors so safeguarded and improved as to invite vessels from all over the world there will be opportunity for development that will bring the State forward to a position that will cause Eastern capitalists to flock here with their wealth to further the development. California is an empire in her domain and her inexhaustible riches of mine, soil and climate, and one of her greatest assets in the development of these, lies in her great shore-line and her harbors."

And let us quote also from the Kern County Echo: "The improvement of San Francisco and San Francisco Bay are matters of much more than local importance. In a large sense both the bay and the city belong to the whole State, and the interests of the two great interior valleys and of the mountain country back of them are very intimately affected by the manner in which the improvement and the business of San Francisco's water-front are ordered."

These broad-minded editors of the north and the south

have well expressed the truth of the matter. The interior and the harbors are to a great degree dependent upon each other. To be sure, the port cities will profit greatly, but the profit of the port cities is that of the whole interior as well. It is not a matter, as many seem to think, of sapping the strength of the interior to the advantage of the ports; it is rather a matter of affording the interior an opportunity for growth and an outlet for its products, not only through transportation to other countries by the ships frequenting the harbors, but through the increased consumption of the constantly-growing port cities. As a real matter of fact the people of the State outside of the port cities are far more deeply concerned in the development of the ports than are the great majority of those who live in those cities. Indeed, the development and improvement of the harbors of the State are matters upon which all the citizens should act as a unit without any hint of division.

The future of the port of San Francisco, as well as to some extent that of the other ports, depends also upon prompt action. The Panama Canal is to be completed in a comparatively short time. What that will mean to commerce we all know. We have rivals, Seattle for instance and other ports already established and to be established in the north. Trade connections once made are hard to break. We must secure the initial trade connections of the new commerce. We must set to work immediately to provide facilities for the accommodation of that commerce if we expect it to come here, and we must have reasonable port expenses if

we expect it to remain with us. Quoting from a recent editorial in the San Francisco Chronicle, "We must have a continuous belt railroad from one extremity of the waterfront to the other, so that freight can be delivered where needed. We should have an official and public investigation into the reasonableness of all our port charges, particularly pilotage, towage and water. And we need substantial appropriations by Congress for deepening all those shallower points of the Bay which are required to give access to these improvements by ships of deep draft. That work belongs to the Federal Government, and experience proves that the liberality of Congress will be in a direct ratio with our own efforts to help ourselves. If we will make docks, Congress will see that ships are able to get to them."

The development of San Francisco harbor should be made as a unit, including in one the water-front of San Francisco, Oakland, Alameda, Berkeley and the other landing and manufacturing sites located thereon. Quoting from a letter from Mr. Marsden Manson, our well-known civil engineer and former chief engineer of the Board of State Harbor Commissioners of San Francisco, in reply to inquiries regarding the development of the Bay of San Francisco:

"The development of San Francisco Bay as a world's center of commerce and industry should be the supreme end toward which all interests should be directed in systematic and sustained effort. To accomplish this there should be made a thorough study by a competent commission, and

from this should follow a unified plan for the development of the entire bay and its shores and the concentration of the national, state and municipal energies and capital upon the accomplishment of this plan. The broad outlines of such a plan can be barely suggested:

"1. The harmonious development of the bay so as to best serve the demands of commerce, by rapid, cheap and safe transfer of traffic from ship to rail and from rail to ship.

"2. The development of warehousing facilities so as to make the shores of the bay the storehouses and distributing points of the products and necessities of the continents and seas bordering the Pacific Ocean.

"3. The provision of every adjunct which serves these needs, such as coal, oil and water, ships' supplies, together with shipbuilding and repairing plants of high capacity and efficiency.

"4. The provision of aids to commerce and navigation in the removal of all dangers and obstructions. The establishment of wireless stations at all light-houses, and the keeping of one or more of the most powerful and efficient tugs always available when life or property is in danger, at the bare cost of service.

"This will make San Francisco what her opportunities now offer, the greatest mart on the Pacific Ocean. This will not come about for the asking, but only by the concerted and sustained energies of her people and capital."

Mr. Manson, we understand, has made a study of all the harbors of California, and in quoting him in respect to San Francisco harbor only, we do not for a moment desire to overshadow the claims of our sister harbors. As a matter of fact all the principal harbors of the State should be developed as a unit, for all are to be concerned with the great commerce which is coming.

Ways and Means

As an ideal method of handling the matter of harbor and also navigable-river improvements, we venture to suggest the following:

1. The Governor of the State to appoint a State board of engineers, who shall hold office during good behavior and competency, and who shall have full supervision over such improvements, working of course in harmony with the Government engineers in the improvement of navigation.
2. In the case of harbors the State board to appoint for each port a resident engineer or engineers, who shall have immediate charge of the engineering work of that port.
3. The Governor to appoint for each port city a commission of three men of financial standing, integrity and special fitness, who shall have charge of all matters other than engineering, pertaining to their respective harbors.

The function of the State board being to develop and maintain the harbors and interior waterways of the State as a unit or according to general plans which will subserve the

interests of the whole State, and to apportion the State funds available therefor.

The function of the resident engineers, to execute under the general supervision of the State board the harbor improvements and facilities designed for their respective ports, to consult with local interests through the commission of citizens as to necessities, and to present the results as suggestions to the State board for action.

The function of the commission of citizens, to represent the citizens of their city, to propose improvements, to advise with the resident engineers, to call for bids, let contracts, administer the property, and in general handle all funds.

So much for an ideal method of handling these important matters. Let us now consider the more immediate question of financing the work before us. In the first place, to improve during the next ten years the principal harbors of the State, including San Diego, San Pedro, San Francisco and Oakland, and Eureka, to a reasonable degree of efficiency, the suggestion has been made that the State issue bonds to the amount of \$25,000,000, these bonds to bear interest at a rate not exceeding 4%. To work out the details of such a bond issue in a wise manner an amendment to the Constitution will be required. That there may be no time lost in undertaking this important work, we suggest that the present Legislature appropriate such funds as will enable work of a permanent character to be undertaken immediately on the completion of plans for same—plans

which shall be prepared, in the absence of such a State River and Harbor Board as we have mentioned, by competent commissions of engineers appointed by the Governor for this special purpose and paid for by the State. The proceeds from the sale of bonds, when they become available, to be apportioned in a just manner to the several harbors, and expended concurrently with their needs.

In this connection we utterly deprecate the proposition to improve our great harbors by means of appropriations through successive Legislatures. This is only another makeshift method such as that so faithfully pursued on the harbor-front of San Francisco—wasteful in the extreme, rendering impossible the undertaking of work of any magnitude, running the risk of delaying important improvements after they have been commenced, on account of diversion of an expected appropriation to other needs which seem more pressing, and placing the whole of this exceedingly important matter at the mercy of the whims and indifference of successive Legislatures. It should be isolated from politics entirely, cut off completely from all temporizing, from all undue influence by individuals or corporations, from all transient interests, and begun upon a stable and permanent foundation; and the way to do this is by an adequate bond issue. The Federal Government also should render substantial aid. Let me quote again some words from the article by Mr. Richard H. Edmonds:

“Beggary is the only word to describe the treatment by the National Government of American rivers and harbors.

The total amount expended in this cause from 1820 to 1906 was \$470,000,000, the average for the last ten years being less than \$20,000,000 annually. Contrast this with what other countries have done. Holland, with 2,000 miles of navigable waterways, against over 43,000 in the United States, not including any streams of the seaboard, has expended about \$1,500,000,000 upon this work, while France, with 4,000 miles of navigable waters, or about one-tenth of what we have, has expended over \$1,000,000,000, or more than twice as much as the United States. It is said that there has been expended upon the harbor of Liverpool alone \$200,000,000. France has spent upon the harbor of Havre \$35,000,000, and other countries have kept pace, realizing the importance of rivers and harbors not only in the development of business, but in the regulation of freight rates. Even Mexico and South America have in many cases far exceeded us in the broadness with which they have regarded river and harbor improvements."

At this point let us quote from Mr. Manson's recent report to the Mayor and Committee on Reconstruction on the improvements that should be undertaken in San Francisco: "The need of these improvements (water-front improvements) has been made so manifest that it is recognized throughout the State that until the State can provide the improvements she controls, every industry within her borders must suffer, and in a measure the commerce of the world will be forced to seek other marts. These conditions are so evident that upon a proper presentation of the con-

ditions the State will be warranted in making provision for improving the water-front and will make such changes in the administration of this great work as experience has amply demonstrated to be necessary. I estimate that there should be made available for these works in the next ten years the sum of \$15,000,000, in sums of \$1,500,000 each fiscal year, commencing with 1907-8. This sum the State should provide by a bond issue. The assessment roll of the State is now over \$1,300,000,000. A tax of four and sixty-two hundredths mills per \$100 of assessed valuation will pay the interest on each year's issue; and without any increase in the assessment roll in the decade following 1907-8, will call for a maximum increase in the tax rate of only four and sixty-two-hundredths cents per \$100 in 1917-18."

If, now, instead of the \$15,000,000 suggested by Mr. Manson the State issues bonds to the extent of \$25,000,000, the increase in the tax rate per \$100, without any change in assessed valuation, that is, taking the same figure as above, will be only seven and seven-tenths cents. Concretely put, this will be less than the value of four two-cent stamps per year per \$100 of assessed valuation. This will pay the interest on the full issue of \$25,000,000.

In our opinion, however, all the surplus port revenues, after the necessary expenses of the harbors have been taken care of, should be paid in to the State Treasurer, to be applied on account of interest on the bonds; the deficit, if any, to be made up from the general State revenues. With per-

manent and proper facilities the constant drain due to the maintenance and renewal of flimsy, makeshift structures will have been stopped, and it is likely that even though the ports be considerably cheapened, a respectable sum can be turned over yearly to the State Treasurer.

We should, in this connection, bear in mind that this is a matter which will benefit the State as a whole. We are proposing to borrow money and spend it at an opportune time in order to considerably increase the business of our State. This increase of business will mean, directly or indirectly, increased prosperity for all.

In conclusion, let us call attention to the fact that for the year ending July 1, 1900, the total revenue of the Mersey Docks and Harbor Board was \$5,639,950. The tonnage during that year was 12,380,917. The tonnage of San Francisco harbor for the 12 months ending July 1st, 1906, was 7,320,927, or more than half of that of Liverpool at that time. The principal sources of revenue at Liverpool are dock dues on ships and proceeds from warehouses and other properties, the profits on the warehouse account alone being between \$800,000 and \$1,000,000 per year. The income of the Board is utilized in paying interest on borrowed capital, administering the properties and making them thoroughly efficient for the demands of the port's trade. And it is the policy of the Board to cheapen the port as fast as the revenues permit. That this policy is a wise one is shown by the fact that the

total revenue mentioned above was an increase of about \$200,000 over the revenue of five years before, even though during the five years the port had been considerably cheapened. This exemplifies the axiom that **trade development follows the line of least resistance.**

If our ports are to share in the great commerce which, in the course of but a few years, will present itself, we must smooth away all obstructions and offer attractive inducements in the shape of low charges; finely appointed docks and fire-proof warehouses; unexcelled facilities for discharging cargoes and for loading; adequate provision of every adjunct to the proper handling, repair and equipment of shipping and of everything in the way of supplies; and the establishment of the most efficient methods of safeguarding, of warning and of rescue. And we should bear in mind that, as said above, **trade connections once made are hard to break**, and that we have no time to lose; if our harbors are to serve as the main gateways to the mighty Pacific with its illimitable possibilities, we must act, and act promptly.

(San Francisco, December 12, 1906.)





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